



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/564,742

01/17/2006

Daisuke Endo

G12-197996C/KK

1838

21254 7590 12/24/2009
MCGINN INTELLECTUAL PROPERTY LAW GROUP, PLLC
8321 OLD COURTHOUSE ROAD
SUITE 200
VIENNA, VA 22182-3817

EXAMINER

MARKS, JACOB B

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

12/24/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/564,742	Applicant(s) ENDO ET AL.	
	Examiner JACOB MARKS	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 October 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 13-21, 23 and 24 is/are pending in the application.
- 4a) Of the above claim(s) 6-8, 19 and 20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 13-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10-08-2009 has been entered. Claims 1-8, 13-21, 23 and 24 are pending. Claim 1 was amended. Claims 9-12 and 22 were canceled.

1. The text of those sections of Title 35, U.S. code not included in this action can be found in the prior Office Action issued 06-19-2009.

Claim Objections

2. Claim 1 is objected to because of the following informalities: The Markush group of claim 1 recites the element Cc. It is the examiner's position that this is a typo and the element is therefore interpreted to mean Ce. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The claim rejections under 35 U.S.C. 112, first paragraph, on claims 22 and 24 are withdrawn because the claims have been either amended or cancelled.

Claim Rejections - 35 USC § 102

4. The claim rejections under 35 U.S.C. 102(b) as being anticipated by Kweon et al. (US Pat. No. 6,569,569) on claims 1, 22, 23, and 24 are withdrawn because the claims have either been amended or cancelled.

Claim Rejections - 35 USC § 103

5. The claim rejections under 35 U.S.C. 103(a) as being unpatentable over Kweon et al. on claim 21 is withdrawn because independent claim 1 has been amended.

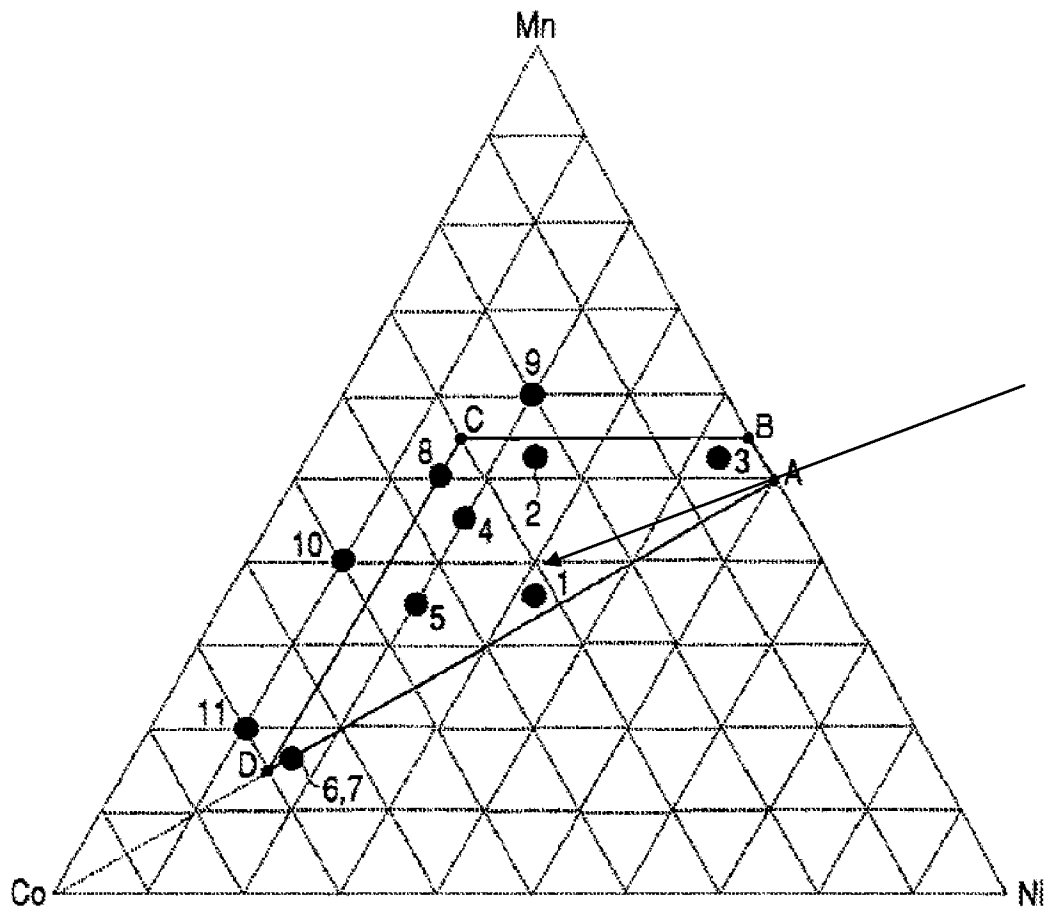
6. The claim rejections under 35 U.S.C. 103(a) as being unpatentable over Shiozaki et al. (WO 03/044881) in view of Park et al. (US Pat. No. 6,291,103) on claims 1-5, and 13-18 are withdrawn because independent claim 1 has been amended.

7. Claims 1-5, 13-15, 17, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shiozaki et al. (WO 03/044881, for English translation see US Pat. No. 7,393,476) in view of Howard et al. (US Pat. Pub. 2002/0141937).

Regarding claims 1-5, 17, and 18, Shiozaki et al. discloses a positive active material containing lithium (base particle) (abstract). Inherent in a positive active material containing lithium is the ability to dope and release lithium ions.

Art Unit: 1795

Shiozaki et al. further disclose a positive active material containing lithium comprising $\text{Li}_x\text{Mn}_a\text{Ni}_b\text{Co}_c\text{O}_2$ (base particle) (see abstract). Shiozaki further discloses that the positive active material may comprise LiCoO_2 which corresponds to point A on fig. 1. Shiozaki et al. further discloses a positive active material corresponding to the claimed composition wherein $a=0.3$, $b=0.3$, $c=0.4$ and $0.95 < x < 1.3$ at the point indicated in fig. 1 (see abstract; fig. 1). Shiozaki et al. also disclose that the structure of the positive active material is an αNaFeO_2 structure (abstract).

FIG. 1

Art Unit: 1795

Shiozaki et al. does not disclose that an addition element is added to the positive active material (col. 2 lines 30-39). However, Howard et al. disclose that a spinel based lithium ion battery may include a protective coating on the cathode that is inactive, i.e. formed on the surface and not incorporated in the base particles, wherein the protective coating may include La_2O_3 (a chalcogen) (abstract, par. 18-22). Howard et al. further discloses that protective coating makes the cathode material acid resistant and improves cycling characteristics (par. 18). Therefore, it would have been obvious to one of ordinary skill in the art to incorporate a protective layer of La_2O_3 into the invention of Shiozaki et al. because Howard et al. disclose that such a layer is acid resistant and can improve cycling characteristics.

Regarding claim 13, it is implicit in Shiozaki et al. that the positive active material is for use in a positive electrode (abstract). Shiozaki et al. further discloses that the positive active material is for use in a lithium secondary battery (abstract).

Regarding claim 14, Shiozaki et al. disclose a lithium secondary battery, with a positive electrode, a negative electrode capable of doping and undoping lithium ions and a nonaqueous electrolyte (col. 12 lines 42-50).

Regarding claim 15, Shiozaki et al. disclose that the batteries using the positive active material have obtained voltages as high as 5 V and that the batteries have been tested at voltages of 4.6 V (col. 29 line 63-col. 30 line 4).

Art Unit: 1795

8. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shiozaki et al. and Howard et al. as applied to claims 1-5, 13-15, 17, and 18, above, further in view of Tsushima et al. (US Pat. No. 6,294,292).

Regarding claim 16, Shiozaki et al. disclose that the negative electrode material may be composed of carbonaceous materials (col. 13 lines 51-60). The combination of Shiozaki and Howard does not teach that the negative electrode material has 1.05 to 1.5 times the capacity of the positive electrode. However, Tsushima et al. disclose that the positive electrode for a lithium battery should have between 0.1 and 1.2 times the capacity of the negative electrode because at ranges where the positive electrode capacity is greater 1.2 times the capacity of the negative electrode, lithium deposition on the negative electrode is likely (abstract, col. 2 lines 19-37). Therefore it would have been obvious to one of ordinary skill in the art to make the capacity of the negative electrode between 1.05 and 1.5 times the capacity of the positive electrode in the Shiozaki/Howard combination because Tsushima teaches that in this range lithium deposition may be prevented.

Response to Arguments

9. Applicant's arguments with respect to claims 1-5, and 13-18 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JACOB MARKS whose telephone number is (571)270-7873. The examiner can normally be reached on Monday through Friday 7:30-5:00 alt Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dah-Wei Yuan can be reached on 571-272-1295. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jacob Marks/

/Dah-Wei D. Yuan/
Supervisory Patent Examiner, Art Unit 1795

